Proposal: GC04-072

Title: Regional Climate Data Assimilation System (R-CDAS) and NAME Data Impact and Prediction Experiments

Figure 1

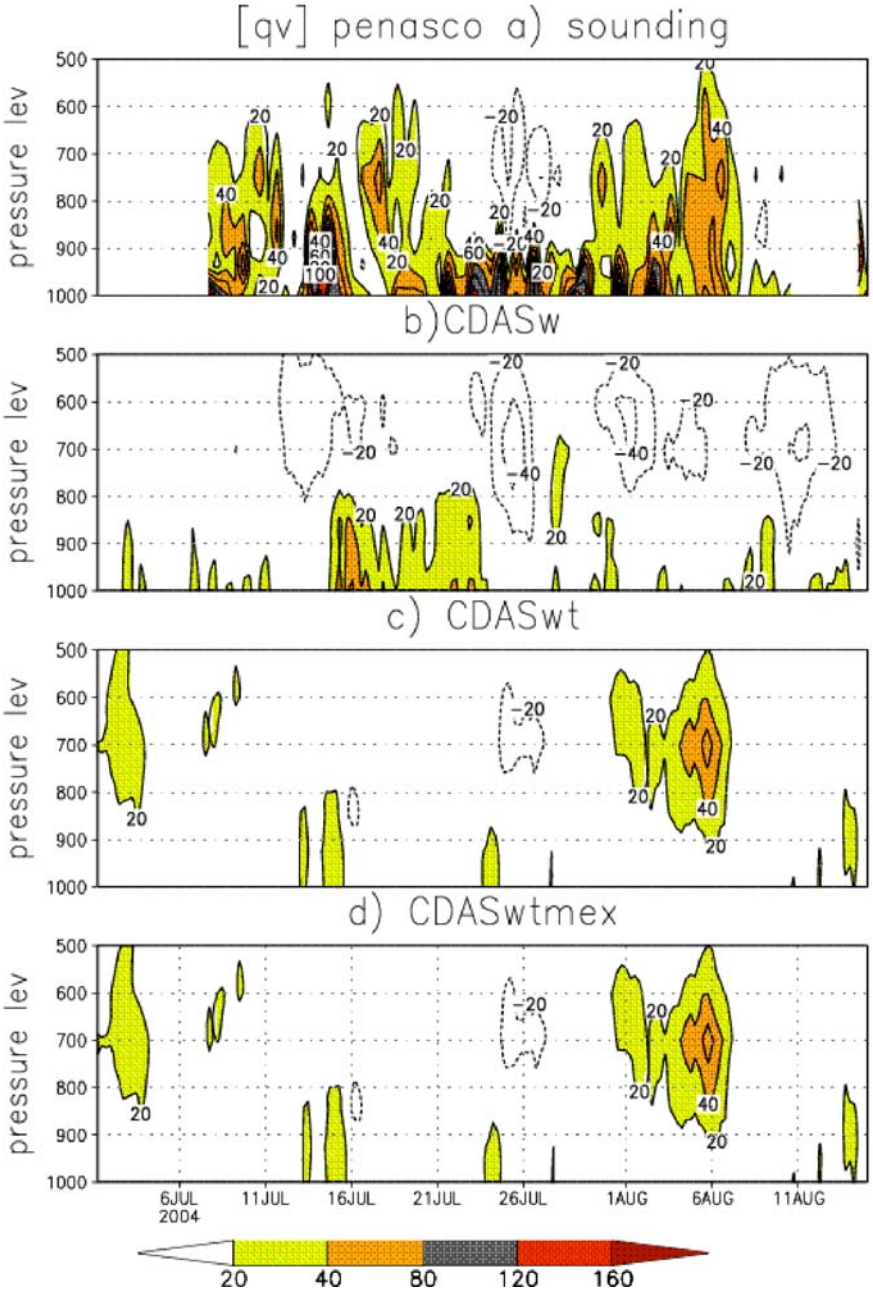

Fig..1: Vertical profile of [qv] at Puerto Penasco (31.3 ^{o}N, 113.3^{o}W) from (a) sounding observations, (b) the CDAS with the NAME soundings, CDASw, (c) the CDAS without the NAME soundings CDASwt and (d) CDAS without soundings over Mexico CDASwtmex. Contour interval is 20 g kg^{-1} m s^{-1} , with values greater than 20 g kg^{-1} m s^{-1} colored.

Figure 2

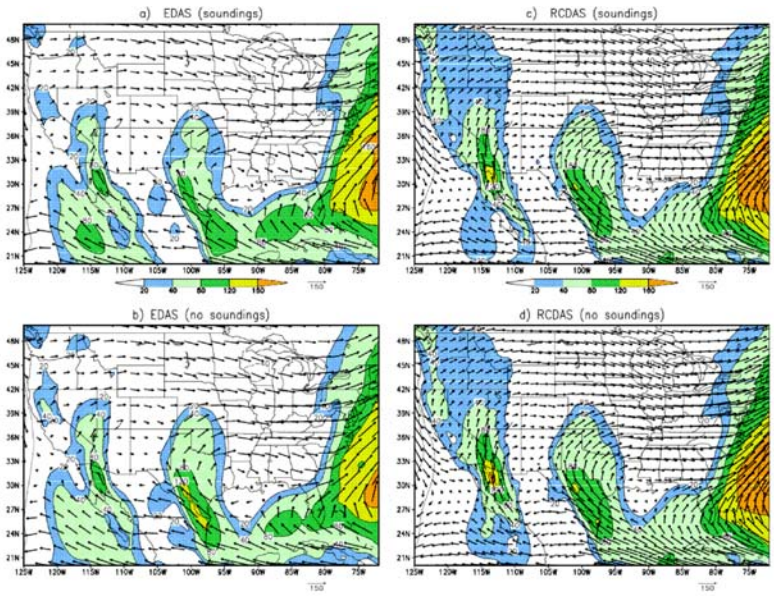

Fig. 2: Vertically integrated moisture flux ([qu], [qv]) (vectors) averaged over the EOP period from (a) the RCDASw and (b) RCDAS wt, (c) EDASw and (d) ECDASwt. The unit vector is 150 kg (m s) $^{-1}$. The vertically integrated moisture flux [qv] is contoured and shaded. Contour interval is 30 kg (m s) $^{-1}$ ..

Figure 3

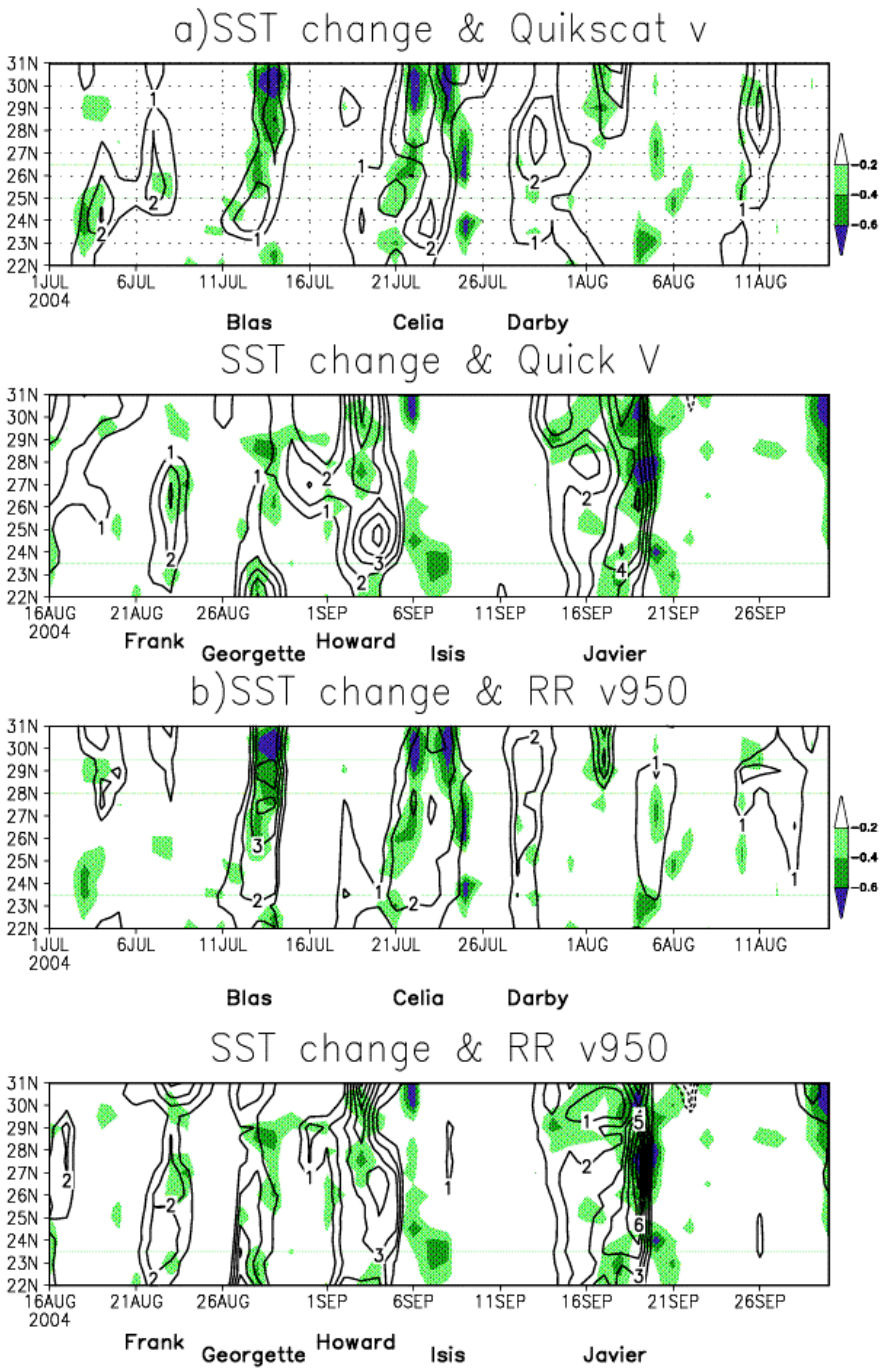

Fig. 3 (a) SST change (shaded) and the Quikscat meridional wind anomaly (contoured) averaged over grid points in the GoC . Contour interval is 1 m s^{-1} . Only positive values of wind anomaly and negative values of the SST change are plotted. Tropical cyclones are indicated, and (b) same as (a), but for meridional wind at 950 hPa from the RR.

Figure 4

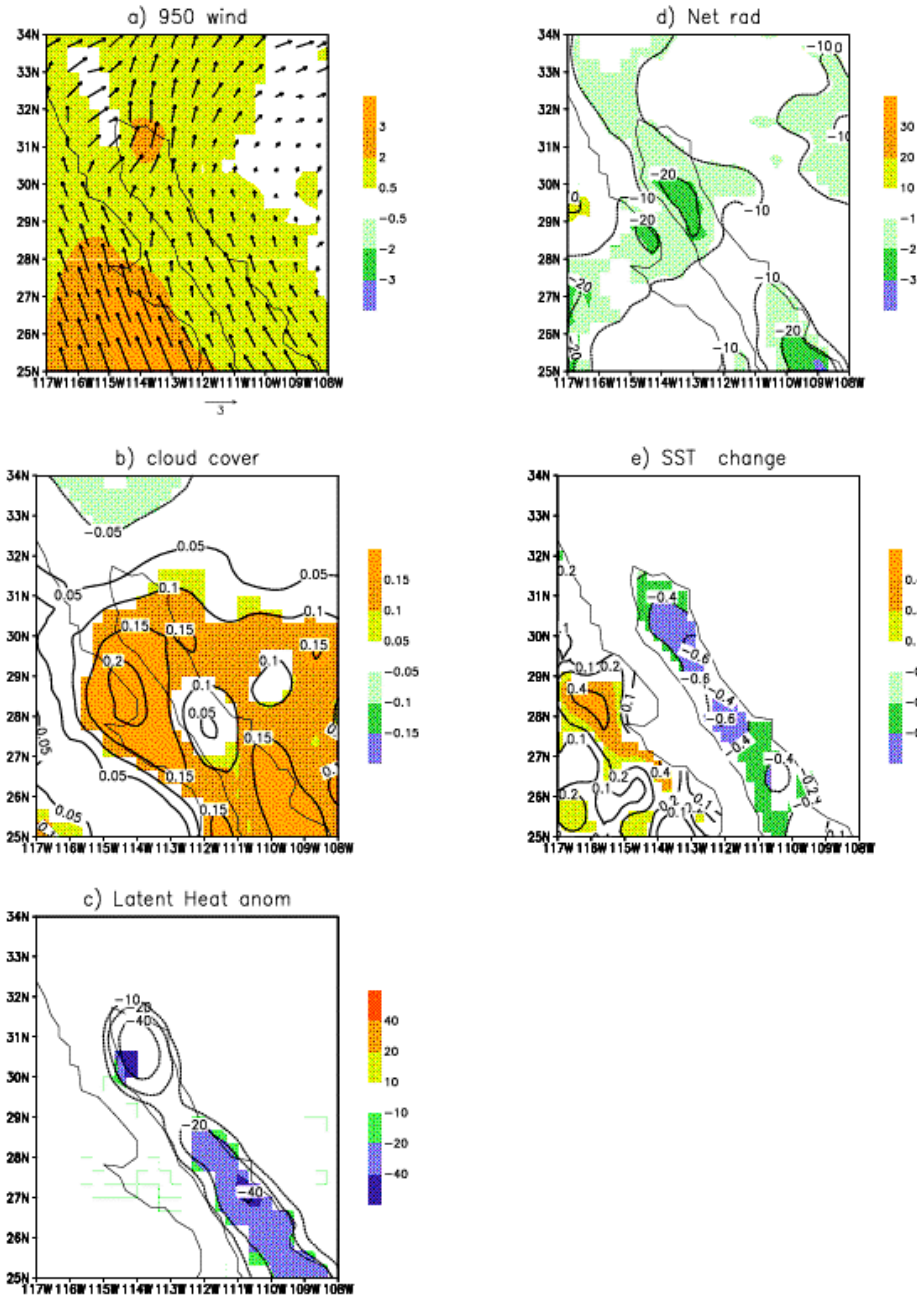

Fig.4: (a) Composite of 950 hPa winds (vector) anomaly averaged over surges for 7 TCs. Meridional winds are shaded. The unit vector is 3 m s^{-1} (b) composite of cloud cover fraction anomaly average over the last day of the surge and the SST cooling periods. Contour interval is 0.05. Zero contours are omitted. Areas where the value is statistically significant at the 5% level are shaded, (c) same as (b), but for latent heat anomalies. Contour interval is 20 W/ m^{-2} . Contours -10 and 10 W m^{-2} are added, (d) same as (b), but for net radiation anomalies on the surface. Contour interval is 10 W m^{-2} , (e) same as (b), but for the SST change average over the SST cooling periods. Contour interval is 0.1 ^{o} C . Anomalies are the departures from the 26-year RR climatology from 1979-2004 except the latent heat. The latent heat anomaly is defined as the departure from the 20-day running means for the same year 2004.